

CLAIMS

What is claimed as being new and desired to be protected by LETTERS PATENT of the United States is as follows:

1. A collapsible boat trailer system for allowing a user to safely and conveniently reconfigure a boat trailer to a reduced size as for storage purposes comprising, in combination:

a trailer having a rearward section formed of parallel rearward rails and with parallel supports there above for receiving thereon a hull of a boat to be transported and with wheels there beneath for transportation purposes;

the trailer having a forward section in a V-shaped configuration terminating in an apex, the forward section being formed of a pair of angled forward rails and a pair of angled intermediate rails coupling the rearward rails and forward rails;

a downward projection extending from the forward rails for support purposes and an upward projection extending from the forward rails for boat-coupling purposes and a forward projection extending from the forward rails for vehicle-coupling purposes;

the trailer having a forward end with the forward projection there adjacent and a rearward end with the parallel supports there adjacent;

a pair of similarly configured hinge assemblies coupling the forward rails and the intermediate rails respectively, each hinge assembly including a U-shaped channel at the forward end of each intermediate rail and a U-shaped channel at the rearward end of

each forward rail, each U-shaped channel having a horizontal upper piece and a parallel lower piece with a vertical coupling piece there between, the coupling piece of each intermediate rail being in facing contact with the associated coupling piece of each forward rail when the trailer is configured for operation and use, each hinge assembly having upwardly extending wings on the upper piece of each intermediate rail with a bolt there between and with a ball positioned on the bolt between the wings, the hinge also including a cylinder secured to the upper piece of each forward rail, each cylinder having a cylindrical opening there through with an axis parallel with the axis of the rearward rail there adjacent, each hinge assembly also having a connecting element with an annular collar pivotably received on the ball of the adjacent rearward rail and with a pin extending into the cylindrical opening whereby the forward rails may pivot with respect to the intermediate rails of the forward section when moving between an operative orientation for transportation purposes and an inoperative orientation for storage purposes;

a locking subassembly including a plurality of downwardly projecting spaced forward plates extending from each lower piece of each forward rail to a location beneath each lower piece of each intermediate rail and a plurality of downwardly projecting spaced rearward plates extending from each lower piece of each intermediate rail, the forward plates and rearward plates being interleaved when in the operative orientation, and with apertures

through all of the plates, the apertures being in alignment when the trailer is in the operative orientation, the locking subassembly also including a pin positionable through the apertures for locking the rails when in an operative orientation; and

a removable winch which can be removed for storage when not in use, and when in use is secured to, and above, one intermediate rail with a handle rotatable by a user and a cable coupling the winch to an intermediate point of one of the forward rails to facilitate the movement of the rails between the operative orientation and the inoperative orientation by the rotation of the handle.

2. A collapsible boat trailer system comprising:

a trailer having parallel rearward rails and a pair of angled forward rails and a pair of angled intermediate rails; and

a pair of similarly configured hinge assemblies coupling the forward rails and the intermediate rails, each hinge assembly including upwardly extending wings on each intermediate rail with a bolt there between and with a ball positioned on the bolt between the wings, the hinge also including a cylinder with a cylindrical opening secured to each forward rail, each hinge assembly also having a connecting element with an annular collar pivotably received on the ball of the adjacent rearward rail and with a pin extending into the cylindrical opening whereby the

forward rails may pivot with respect to the intermediate rails of the forward section.

3. The system as set forth in claim 2 and further including a locking subassembly comprising a plurality of downwardly projecting spaced forward plates extending from each lower piece of each forward rail to a location beneath each lower piece of each intermediate rail and a plurality of downwardly projecting spaced rearward plates extending from each lower piece of each intermediate rail, the forward plates and rearward plates being interleaved when in the operative orientation, and with apertures through all of the plates, the apertures being in alignment when the trailer is in the operative orientation, the locking subassembly also including a pin positionable through the apertures for locking the rails when in an operative orientation; and

4. The system as set forth in claim 2 and further including a removable winch which when not in use can be removed for storage, and when in use is secured to, and above, one intermediate rail with a handle rotatable by a user and a cable coupling the winch to an intermediate point of one of the forward rails to facilitate the movement of the rails between the operative orientation and the inoperative orientation by the rotation of the handle.

5. The system as set forth in claim 2 and further including supplemental angled rails having upper and lower surfaces, the

supplemental rails being located between the intermediate rails rearwardly and the forward rails located forwardly, the intermediate and forward rails each having an upper surface and a lower surface, a pair of first hinges, each first hinge coupling the upper surfaces of the intermediate and supplemental rails and a pair of second hinges, each second hinge coupling the lower surface of the supplemental and forward rails, and a winch coupled to one intermediate rail with a cable coupled to one intermediate rail.

6. A collapsible boat trailer system comprising:

a trailer having a forward portion with an upper surface and a rearward portion with an upper surface, with the forward portion being coupled to the rearward portion by a hinging mechanism, the mechanism having a three dimensionally pivoting component, thereby allowing the upper surface of forward portion of the trailer to be folded upon the upper surface of the rearward portion of the trailer.

7. A collapsible boat trailer system as described in Claim 6 wherein the hinge mechanism further comprises a locking component for locking the trailer in an operative orientation.